

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1-52. (Canceled)

53. (Currently Amended) A method for eliciting an immune response against an A/E pathogen, or component thereof, in ~~a ruminant~~ ~~an animal~~ comprising administering to the ~~ruminant animal~~ an effective amount of a composition comprising:

- i) ~~an isolated~~ [[a]] polypeptide which comprises an amino acid sequence having at least 75% sequence identity substantially identical to the sequence of SEQ ID NO: 24 ~~SEQ ID NOs: 22-24~~ or an immunogenic [[a]] fragment or variant thereof, or
 - ii) ~~a nucleic acid molecule which comprises a nucleotide sequence substantially identical to the sequence of SEQ ID NOs: 1-3 or a fragment or variant thereof,~~
 - iii) ~~a nucleic acid molecule encoding a polypeptide which comprises an amino acid sequence substantially identical to the sequence of SEQ ID NOs: 22-24 or a fragment or variant thereof, or~~
 - iv) ~~a cell culture supernatant which comprises an isolated~~ [[a]] polypeptide comprising an amino acid sequence having at least 75% sequence identity substantially identical to the sequence of SEQ ID NO: 24 ~~SEQ ID NOs: 22-24~~, or an immunogenic [[a]] fragment or variant thereof,
- thereby eliciting an immune response in the ruminant animal.

54. (Currently Amended) A method for reducing colonization of an A/E pathogen in a ~~ruminant~~ ~~an animal~~, the method comprising administering to the ~~ruminant animal~~ an effective amount of a composition comprising:

- i) ~~an isolated~~ [[a]] polypeptide which comprises an amino acid sequence substantially identical having at least 75% sequence identity to SEQ ID NO: 24 ~~the sequence of~~

SEQ ID NOs: 22-24, or an immunogenic [[a]] fragment or variant thereof, or

ii) ~~a nucleic acid molecule which comprises a nucleotide sequence substantially identical to the sequence of SEQ ID NOs: 1-3 or a fragment or variant thereof,~~

iii) ~~—a nucleic acid molecule encoding a polypeptide which comprises an amino acid sequence substantially identical to the sequence of SEQ ID NOs: 22-24 or a fragment or variant thereof, or~~

iv) ~~—a cell culture supernatant which comprises an isolated [[a]] polypeptide comprising an amino acid sequence having at least 75% sequence identity substantially identical to SEQ ID NO: 24 the sequence of SEQ ID NOs: 22-24, or an immunogenic [[a]] fragment or variant thereof, thereby reducing colonization of the A/E pathogen in the ruminant animal.~~

55. (Currently Amended) A method for reducing shedding of an A/E pathogen in a ruminant ~~an animal~~ comprising administering to the ruminant animal an effective amount of a composition comprising:

i) an isolated [[a]] polypeptide which comprises an amino acid sequence having at least 75% sequence identity substantially identical to SEQ ID NO: 24 ~~the sequence of SEQ ID NOs: 22-24~~ or an immunogenic [[a]] fragment or variant thereof,

ii) ~~a nucleic acid molecule which comprises a nucleotide sequence substantially identical to the sequence of SEQ ID NOs: 1-3 or a fragment or variant thereof,~~

iii) ~~—a nucleic acid molecule encoding a polypeptide which comprises an amino acid sequence substantially identical to the sequence of SEQ ID NOs: 22-24 or a fragment or variant thereof, or~~

iv) ~~—a cell culture supernatant which comprises an isolated [[a]] polypeptide comprising an amino acid sequence having at least 75% sequence identity substantially identical to SEQ ID NO: 24 the sequence of SEQ ID NOs: 22-24, or an immunogenic [[a]] fragment or variant thereof, thereby reducing shedding of the A/E pathogen in the ruminant animal.~~

56. (Currently Amended) The method of claim 53, wherein the ~~animal~~ is a ruminant is a bovine or ovine subject.

57. (Currently Amended) The method of claim 56 54, wherein the ruminant is a bovine or ovine subject.

58. (Currently Amended) The method of claim 53 55, wherein the ruminant is a bovine or ovine subject ~~animal is a human~~.

59-70. (Canceled)

71. (Previously Presented) The method of claim 53, wherein the A/E pathogen is enterohemorrhagic *E. coli* (EHEC), enteropathogenic *E. coli* (EPEC), or *Citrobacter rodentium*.

72. (Original) The method of claim 71 wherein the EHEC is EHEC O157:H7 or EHEC O157:NM.

73. (Original) The method of claim 71 wherein the EPEC is EPEC O127:H6.

74-85. (Canceled)

86. (Previously Presented) The method of claim 53, wherein the composition is provided in combination with a physiologically acceptable carrier.

87. (Previously Presented) The method of claim 53, wherein the polypeptide comprises 20% of the cell protein present in the composition.

88. (Currently Amended) The method of claim 53, wherein the composition further comprises a EspA, EspB, EspD, EspP, Tir, ~~Shiga-toxin-1, Shiga-toxin-2,~~ or an intimin polypeptide.

89. (Previously Presented) The method of claim 53, wherein the composition further comprises an adjuvant.

90. (Currently Amended) The method of claim ~~53~~ 54, ~~further comprising treating or preventing infection by the A/E pathogen wherein the A/E pathogen is enterohemorrhagic *E. coli* (EHEC), enteropathogenic *E. coli* (EPEC), or *Citrobacter rodentium*.~~

91. (Currently Amended) The method of claim 54, wherein the ~~animal is a ruminant~~ EHEC is EHEC O157:H7 or EHEC O157:NM.

92. (Currently Amended) The method of claim ~~55~~ 54, wherein the ~~animal is a ruminant~~ composition further comprises an adjuvant.

93. (Currently Amended) The method of claim ~~54~~ 55, wherein the ~~animal is a human~~ A/E pathogen is enterohemorrhagic *E. coli* (EHEC), enteropathogenic *E. coli* (EPEC), or *Citrobacter rodentium*.

94. (Currently Amended) The method of claim 55, wherein the ~~animal is a human~~ EHEC is EHEC O157:H7 or EHEC O157:NM.

95. (New) The method of claim 55, wherein the composition further comprises an adjuvant.